



CINT2000 Result

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IBM Corporation
IBM eServer pSeries 670 (1500 MHz, 1 CPU)

SPECint2000 = 981
SPECint_base2000 = 950

SPEC license #: 11 | Tested by: IBM, Austin, TX | Test date: Apr-2003 | Hardware Avail: May-2003 | Software Avail: May-2003

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	199	704	199	704	
175.vpr	1400	151	929	151	929	
176.gcc	1100	109	1007	109	1007	
181.mcf	1800	112	1607	106	1701	
186.crafty	1000	120	831	103	971	
197.parser	1800	452	398	451	399	
252.eon	1300	110	1184	110	1184	
253.perlbmk	1800	247	730	222	811	
254.gap	1100	111	992	111	992	
255.vortex	1900	130	1466	129	1477	
256.bzip2	1500	150	997	146	1031	
300.twolf	3000	243	1235	239	1257	

Hardware

CPU: POWER4+
 CPU MHz: 1500
 FPU: Integrated
 CPU(s) enabled: 1 core, 4 chips, 2 cores/chip, 4 chips/MCM
 CPU(s) orderable: 4,8,16 cores (order by # cores)
 Parallel: No
 Primary Cache: 64KBI+32KBD (on chip) per core
 Secondary Cache: 1536KB unified (on chip) per chip
 L3 Cache: 128MB unified (off-chip) per MCM, 2 MCMs in SUT
 Other Cache: None
 Memory: 32 GB
 Disk Subsystem: 1x36GB SCSI, 10K RPM
 Other Hardware: None

Software

Operating System: AIX 5L V5.2
 Compiler: IBM C for AIX, Version 6.0
 IBM VisualAge C++ Professional for AIX, Version 6.0
 File System: AIX/JFS
 System State: Multi-User

Notes/Tuning Information

Integer Portability Flags:

```
176.gcc:      -ma -DHOST_WORDS_BIG_ENDIAN
186.crafty:   -DAIX
252.eon:      -DNEED_EXPLICIT_SPECIALIZATION
              -I. -DNDEBUG
253.perlbmk:  -DSPEC_CPU2000_AIX
254.gap:      -DSYS_IS_BSD -DSYS_STRING_H -DSYS_HAS_TIME_PROTO
              -DSYS_HAS_MALLOC_PROTO -DSYS_HAS_CALLOC_PROTO
300.twolf:    -DHAVE_SIGNED_CHAR
```

Base Optimization Flags:

```
C:
-qpdf1/pdf2
-O5 -blpdata -qalign=natural
C++:
-qpdf1/pdf2
-O5 -lhmu -qalign=natural
```

Integer Peak Optimization Flags

164.gzip



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Notes/Tuning Information (Continued)

```

BASEPEAK = 1
"CC      = /usr/vac/bin/xlc"
175.vpr
BASEPEAK = 1
176.gcc
BASEPEAK = 1
181.mcf
fdpr -v -R3
-O5 -blpdata
186.crafty
-qpdf1/pdf2
fdpr -v -R3
-O3 -q64
197.parser
-O5 -blpdata
252.eon
BASEPEAK = 1
253.perlbnk
-qpdf1/pdf2
-O5 -lhmu -qalign=natural
254.gap
BASEPEAK = 1
255.vortex
-qpdf1/pdf2
-O5 -lhmu -qalign=natural
256.bzip2
-qpdf1/pdf2
-O5 -blpdata -qarch=pwr3 -qtune=pwr3
300.twolf
-qpdf1/pdf2
-O5 -lhmu -qalign=natural -blpdata
"CC      = /usr/vac/bin/xlc"

```

MCM: Acronym for "Multi-Chip Module"

SUT: Acronym for "System Under Test"

15 processors were deconfigured through the configuration menu.
2 memory-cards were deconfigured through the configuration menu.

fpdr: Feedback directed program restructuring tool
/usr/spec2000 filesystem mounted with no JFS log file I/O.
APAR IY 39795 was applied to AIX to enable new hardware support.
ulimits set to unlimited.

C: IBM VAC++ invoked as cc except where noted as xlc

C++: IBM VAC++ invoked as xlc

Large page mode and memory affinity were set as follows:

```

vmo -r -o lpgg_regions=32 -o lpgg_size=16777216 -o memory_affinity=1
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
shutdown -r
export MEMORY_AFFINITY=MCM

```